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(71) Applicant *(for all designated States except US)*: MILLIPORE CORPORATION [US/US]; 80 Ashby Road, Bedford, MA 01730 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: PEARL, Steven, R. [US/US]; 78 Spindlewick Drive, Nashua, NH 03062 (US). DZENGELESKI, Stephen [US/US]; 20 Fox Meadow Lane, Arlington, MA 02174 (US). KURIEYL, Ralf [US/US]; 330 Dartmouth Street, Apartment 2N, Boston, MA 02116 (US).

(74) Agent: KING, Timothy, J.; Millipore Corporation, 80 Ashby Road, Bedford, MA 01730 (US).

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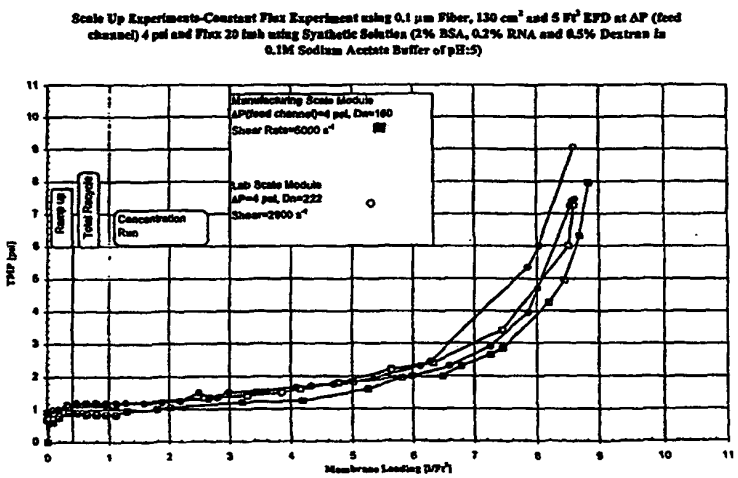
(54) Title: HOLLOW FIBER SEPARATION MODULE AND METHODS FOR MANUFACTURING SAME

EXPERIMENTS DEMONSTRATING SCALING BETWEEN LABORATORY AND MANUFACTURING SCALE MODULES



(57) Abstract

The present invention provides methods for producing single and multi-layered coiled hollow fiber bundles for use in separation modules whose performance can be predicted, said modules being designed to take advantage of the benefits of Dean vortices. The present invention is also directed to multi-layered coiled hollow fiber bundles for use in separation modules that are directly scalable because each layer performs substantially equivalently to the other layers when subjected to a fluid of a certain velocity such that Dean vortices are created.